



THE COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF LABOR  
**DIVISION OF OCCUPATIONAL SAFETY**  
OCCUPATIONAL HYGIENE / INDOOR AIR QUALITY PROGRAM  
[www.mass.gov/dos/iaq](http://www.mass.gov/dos/iaq)

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## **Environmental Tobacco Smoke in the Workplace**

### **Introduction**

**Environmental Tobacco Smoke (ETS) and Air Quality Pollution** - Environmental Tobacco Smoke or ETS can be a major source of indoor air pollution. The purpose of this bulletin is to raise awareness of the hazards associated with ETS and suggest control measures to minimize employee exposure to second hand smoke in the workplace. According to a study conducted by Fontham in 1994, it was discovered that there is a slightly higher risk for exposure to ETS at the workplace than in a residence. In 1996, the Journal of the American Medical Association reported that studies indicate that 9 out of every 10 nonsmokers in the U.S. are exposed to ETS at detectable levels. ETS can be a source of irritation, and chemicals in ETS are known to cause cancer.

### **Health Effects**

**Possible Symptoms and Effect** - ETS causes irritation of the eye, nose, and throat. ETS can also irritate the lungs leading to coughing, excess phlegm, chest discomfort and reduced lung function. ETS may affect the cardiovascular system and studies have associated ETS with the onset of chest pain.

The US Environmental Protection Agency (EPA) has reported the following: Approximately 25% of American adults still smoke. ETS contains at least 40 substances which are known to cause cancer in humans; many of the same substances are strong irritants. ETS has been classified by EPA as a known cause of lung cancer in humans. EPA estimates that passive smoke causes approximately 3000 lung cancer deaths in non smokers each year. Of the 3000 lung cancers EPA estimates that 2,200 are attributable to non residential exposure which points to workplace and social settings.

### **Control Measures**

**Smoking Policy** - Every workplace should have a smoking policy in place which effectively protects those who do not smoke. If smoking is allowed, it should only be allowed in designated areas where specific controls are in place.

**Ventilation** - Smoking indoors is a concern especially in circumstances when there is not adequate ventilation to exhaust cigarette, cigar and pipe smoke to the outdoors. Ventilation systems are typically designed to distribute air throughout an occupied space in a building. Air from the space is recycled to the central heating, ventilation, air conditioning (HVAC) unit for conditioning and is redistributed back into the building with a measured amount of fresh air (theoretically) added at the unit. This means that air contaminated with ETS can be redistributed throughout the building. The typical HVAC is generally not designed to provide sufficient air exchange or dilution indoors when and where smoking occurs.

**Designated Smoking Rooms** – If smoking is allowed in this building, a designated smoking room should be established. The designated smoking room should be segregated so that the non smokers are not involuntarily exposed to smoke. The areas must have adequate airflow and exhaust ventilation which removes all smoke directly to the outdoors with no recirculation. If smoking is allowed indoors, the employer should provide the following:

- 1) Institute a smoking policy and prohibit smoking except in designated smoking room.
- 2) The designated smoking room should be posted and located in an area where non-smoking employees are not required to enter as part of his or her work responsibilities.
- 3) Schedule regular cleaning of the designated room during times when the area is not in use.
- 4) The smoking room should be free of obstructions such that air can mix effectively and quickly. Portable or ceiling fans provide improved mixing and should not interfere with or shortcut exhaust.
- 5) All air from the designated room should be exhausted directly outdoors by mechanical exhaust; in other words no air recirculation.
- 6) The smoking room should be under negative pressure as compared to the surrounding areas. This means more air exhausted than supplied so that smoke does not escape to other areas.
- 7) The exhaust ventilation should provide a minimum of 60 cubic feet per minute (cfm) of exhaust air per potential smoker based on occupancy load for the space involved. See American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) standard 62-1989, as revised, for supply air recommendations.

### Regulating Environmental Tobacco Smoke

**Massachusetts** – MGL c 270 s22 as amended, prohibits smoking in certain State buildings owned by the state and in any space occupied by a state agency or Department of the Commonwealth but located in a building not owned by the Commonwealth. Other buildings under this law include buildings and areas such as retail food outlets, public elevators, polling places, school buses, supermarkets, courtrooms, town meeting halls, mass transit vehicles and enclosed waiting areas. Designated smoking areas are required in museums, hospital lobbies, trains, restaurants with 75 or more seats, colleges and universities, child care centers, libraries, nursing homes, airplanes, courthouses, airport terminals and schools. Contact the Department of Public Health Tobacco Control Program listed below.

**State & Local Boards of Health** – Many cities and towns have ordinances which prohibit smoking or have partial smoking bans in particular types of facilities that may include workplaces; contact your local board of health to learn about specific workplaces. The state and local boards of health can enact reasonable health regulations under MGL c 111 s 31 and can examine all nuisances, sources of filth and causes of sickness under MGL c 111 s122. They can also regulate and control atmospheric pollution under MGL c 111 s 32C. Contact your local board of health for more information.

In addition, any company or employer can choose to become a smoke free environment. If this is done, the employer should assist the employee in quitting by supporting smoke cessation programs.

### For More Information Please Contact

U.S. Environmental Protection Agency Indoor  
Air Quality Information Clearinghouse  
(IAQ INFO) P.O. Box 37133  
Washington, DC 20013-7133

National Cancer Institute  
Building 3, Room 10A24  
9000 Rockville Pike  
Bethesda, MD 20892  
1-800-4-CANCER

Nat'l Institute for Occupational Safety & Health  
4676 Columbia Parkway  
Cincinnati, OH 45226-1998  
1-800-35-NIOSH

MA Div of Occupational Safety  
Occupational Hygiene Program/ Indoor Air Quality Program  
1001 Watertown Street, 2<sup>nd</sup> Floor  
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617-969-7177

Department of Public Health  
Tobacco Control program  
250 Washington Street, 4<sup>th</sup> Floor  
Boston, MA 02108-4619  
617-624-5900